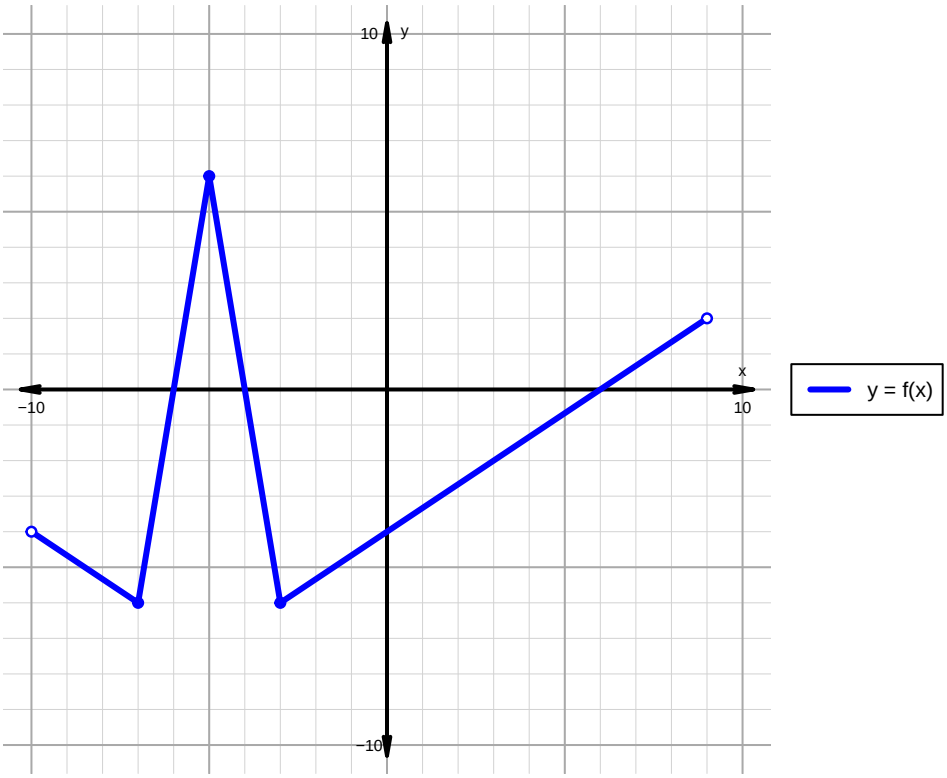
Name: Date:

Intervals, Transformations, and Slope Solution (version 139)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-6,-4)\cup(6,9)$
Negative	$(-10,-6)\cup(-4,6)$
Increasing	$(-7,-5)\cup(-3,9)$
Decreasing	$(-10,-7)\cup(-5,-3)$
Domain	$(-10,9)$
Range	$(-6,6)$

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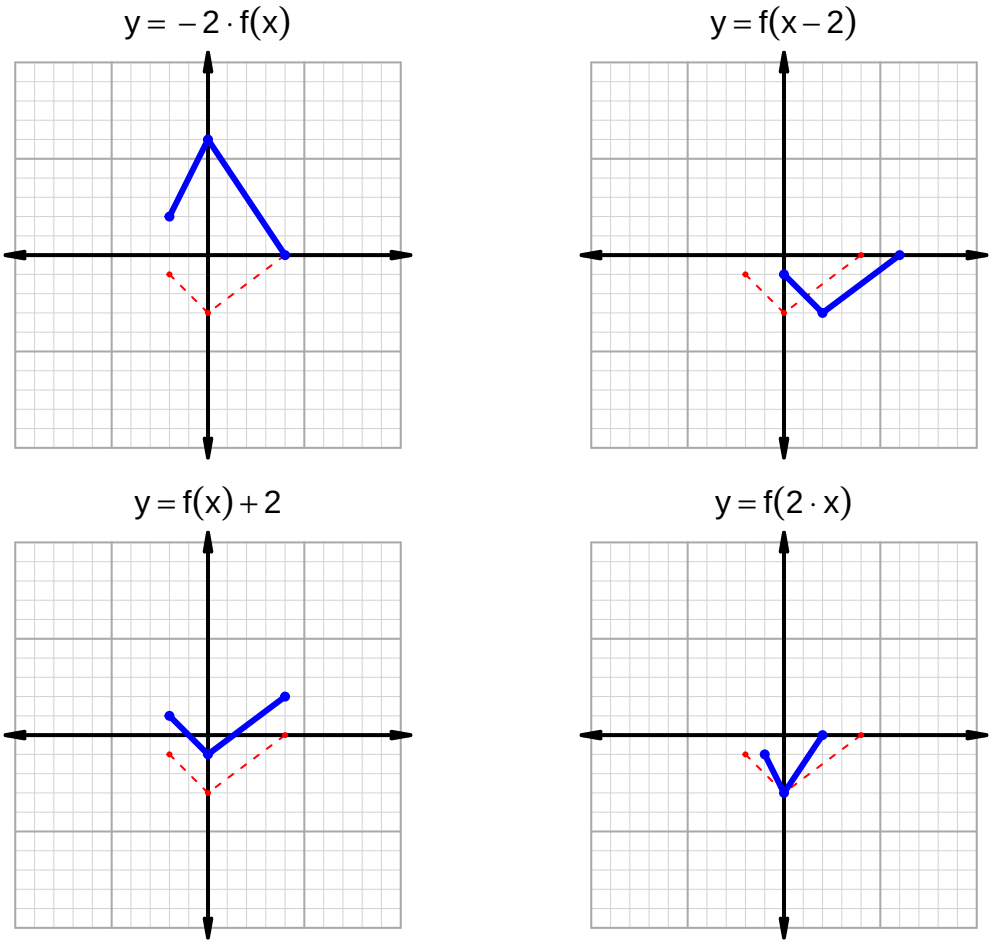
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 79$ and $x_2 = 95$. Express your answer as a reduced fraction.

x	$g(x)$
16	95
79	16
88	79
95	88

$\frac{f(95)-f(79)}{95-79} = \frac{88-16}{95-79} = \frac{72}{16}$

The greatest common factor of 72 and 16 is 8. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{9}{2}$$